Alternatively, as shown in Fig. 7B, the reservoir unit 104B can be made such that the reservoirs (e.g., 106K) have a bottom (e.g., 106L), which is thin so that it can be punctured by a protrusion arm 106M from the separation unit 102B. The protrusion arms 106M each can have a channel for allowing fluid to flow from the reservoir into the separation unit 102B. It is preferred that the reservoir unit 104 is made of a material that can seal against the separation unit 102B well to prevent leakage.

Fig. 7C. depicts the same device as Fig. 7B except that an additional separation unit 102C is employed. Thus, the reservoir unit 104B can be made such that the reservoirs (e.g., 106K) have a bottom (e.g., 106L), which is thin so that it can be punctured by a protrusion arm 106M from the separation units 102B or 102C in succession. As shown, separation units 102B and 102C have channels of different lengths.

IN THE CLAIMS:

Please cancel claim 9 without prejudice

Amend claims 1, 25, 26, and 28 as indicated in Appendix B. The amended claims will then read as follows:

1. (Amended Seven Times) A modular microchannel apparatus for the chemical analysis of an analyte in a sample, comprising:

(a) a plurality of separation units each comprised of a solid substrate having a microchannel present in the surface thereof, wherein the microchannel in each separation unit is of a different length and forms a separation column or capillary that separates the analyte from the sample according to the molecular characteristics of the analyte;

(b) a single reservoir unit in the form of a plate comprised of a reservoir that contains a liquid for introduction into each of the microchannels of the separation units in succession; and

(c) an external power source capable of generating an electric field difference between electrically conductive probes extending into the reservoir unit, the power source operatively

connected to the reservoir unit for electrokinetically driving the liquid from the reservoir through the microchannels of the separation units,

wherein the reservoir unit has dimensions that enable the operative and modular coupling of the reservoir unit to each separation unit in succession to allow liquid from the reservoir to be electrokinetically driven, by a power-source-generated electric field difference between the probes, into the microchannel of the separation unit that is operatively and modularly coupled to the reservoir unit.

25. (Amended Six Times) A kit for making a modular microchannel apparatus for the chemical analysis of an analyte in a sample, comprising:

(a) a plurality of separation units each comprised of a solid substrate having a microchannel present in the surface thereof, wherein the microchannel in each separation unit is of a different length and forms a separation column or capillary that separates the analyte from the sample according to the molecular characteristics of the analyte;

(b) a single reservoir unit in the form of a plate comprised of a reservoir that contains a liquid for introduction into each of the microchannels of the separation units in succession; and

(c) an external power source capable of generating an electric field difference between electrically conductive probes and having dimensions that enable its modular and operative connection to the reservoir unit for electrokinetically driving the liquid from the reservoir through the microchannels of the separation units,

wherein the reservoir unit has dimensions that enable the operative and modular coupling of the reservoir unit to each separation unit in succession, the probes extend into the reservoir unit when the reservoir unit is operatively coupled to the external power source, and a power-source-generated electric field difference between the probes electrokinetically drives liquid from the reservoir into the microchannel of the separation unit that is operatively and modularly coupled to the reservoir unit.

26. (Amended) The apparatus according to claim 2, further comprising a support plate for operatively and modularly coupling to the separation units.

28. (Thrice Amended) A modular microdevice for analyte analysis, comprising:

(a) a plurality of separation units each comprised of a solid substrate having a microchannel present in the surface thereof, wherein the microchannel in each separation unit is of a different length and forms a separation column or capillary that separates an analyte from a sample according to the molecular characteristics of the analyte;

(b) a single reservoir unit in the form of a plate comprised of a plurality of reservoirs, wherein each reservoir contains a liquid, and each liquid is suitable for introduction into a microchannel of a separation unit; and

(c) an external power source capable of generating an electric field difference between electrically conductive probes extending into the reservoir unit, the power source operatively connected to the reservoir unit for electrokinetically driving liquids from the reservoir unit through the microchannels of the separation units,

wherein the reservoir unit has dimensions that enable the operative and modular coupling of the reservoir unit to each separation unit in succession to allow liquid from at least one of the plurality of reservoirs to be electrokinetically driven, by a power-source-generated electric field difference between the probes, into the microchannel of the separation unit that is operatively and modularly coupled to the reservoir unit.

REMARKS

In the Office Action under reply, the Examiner objected to the modified Fig. 7B that the applicants had previously submitted. In particular, the Examiner required submission of a new Fig. 7C. In addition, claims 1-12, 25, 26, 28 and 30 of this application were examined and stand rejected as follows:

(1) Claims 28 and 30 stand rejected under 35 U.S.C. §112, first paragraph, as drawn to subject matter not described in the specification in such a way as to reasonably convey that the inventor(s) has possession of the claimed invention at the time of filing (previously issued rejection of claims 1-12, 25, and 26 having been withdrawn);

(2) Claims 28 and 30 stand rejected under 35 U.S.C. §112, second paragraph, as indefinite (previously issued rejection of claims 1-12, 25, and 26 having been withdrawn);